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Mr. Chairman and distinguished members of the Committee, thank you for inviting me to testify before your subcommittee today. My name is Dr. Gerald Monette. I am honored to be here as spokesperson for the American Indian Higher Education Consortium and as president of Turtle Mountain Community College, which is located in north-central North Dakota on the Turtle Mountain Band of Chippewa Reservation.

On behalf of this nation's 32 Tribal Colleges and Universities (TCUs), I want to express our strong support for S. 414, the NTIA Digital Network Technology Program Act. I also want to thank the members of this subcommittee, in particular Senators Max Cleland, Conrad Burns, and Byron Dorgan, for your efforts on behalf of tribal colleges and all minority-serving institutions.

For this afternoon's hearing, I have organized my testimony in three parts: (1) brief history of the tribal college movement; (2) background on technology in Indian Country and strategies the tribal colleges have taken to bring new technological opportunities to our people; and (3) legislative recommendations for the subcommittee's consideration.

The Tribal College Movement:

In the mid-1990s, the Carnegie Foundation for the Advancement of Teaching dubbed American Indian Tribal Colleges and Universities "higher education's best kept secret." The title has stuck, for a number of reasons: We are small institutions, located in some of the most rural regions of this country. Turtle Mountain Community College, for example, is situated along the U.S.-Canada border in a beautiful wooded region that may have more lakes and geese than buildings and people.

Tribal colleges are young institutions – ranging from two to 33 years in age, but we are growing rapidly. Since the first tribal college was established on the Navajo reservation in 1968, we have grown to 32 institutions in the U.S, and our enrollments have increased by more than 1300 percent. Today, all seven tribes in Montana and all five tribes in North Dakota have colleges. Tribal colleges are also located in the southwest, the Great Lakes, and the upper Northwest. We are expanding in all regions, including Alaska.

In only a few decades, we have made a tremendous impact on Indian Country. For example, before 1976, when Salish Kootenai College (SKC) was established in Senator Burns' home state of Montana, less than 30 members of the Salish and Kootenai tribes had earned a college degree. Between 1976 and 1994, SKC graduated more than 400 tribal members. Today, Salish Kootenai College offers a number of bachelor's degree programs. Students around the world take SKC courses through its Internet-based international distance education programs.

According to one study, 75 percent of tribal college graduates are employed in the local community or go on to another institution of higher education. By comparison, American Indians who leave the reservation and enroll in mainstream colleges directly from high school have a failure rate of about 80 percent.

The typical tribal college student is:

- part-time, like the majority of community college students;
- an Indian woman;
- about 31 years old;
- single with young children; and
- often dependent on welfare or her extended family for support.

Many students are in need of basic remediation. And for many, the next nearest college is well over 100 miles away.

Because our colleges are located primarily on rural and remote Indian reservations, our student population is relatively small. Collectively, we serve more than 30,000 full- and part-time students. We offer a wide range of certificate, associate and bachelor degree programs, tailored to meet the needs of our local communities. Two tribal colleges offer graduate degrees. All of the tribal colleges are fully accredited – or candidates for accreditation – by national accrediting associations. All of the tribal colleges have articulation agreements with 4-year institutions to ensure a seamless transition for students interested in pursuing further degrees at other institutions.

In addition to offering general academic, basic, and remedial education programs, an important mission for each tribal college is to work closely with its tribe to plan for and develop reservation-based economies and create sustainable social and economic programs for our people. Several colleges operate "Tribal Business Information Centers," local resources for business planning and entrepenuership.

Over the past 30 years, tribal colleges have grown tremendously, yet we face serious challenges. We remain the most poorly funded institutions of higher education in this country:

(1) Tribal colleges are not state institutions, and consequently, we receive little or no state funding.
(2) Tribal governments, though supportive of the colleges, are underfunded themselves. These tribes are not the small handful of wealthy gaming tribes located near major urban areas. Rather, they are some of the poorest governments in the

nation. In fact, three of the five poorest counties in America are home to tribal colleges.

(4) The federal government, despite its trust responsibility and treaty obligations, has, over the years, not considered funding of American Indian higher education a priority. For fiscal year 2003, the President's budget proposes an appropriation of slightly more than one-half of the authorized amount, or about $3,500 per full-time Indian student.

Through our consortium, AIHEC, we are working to address these challenges. AIHEC's mission, in part, is to *"nurture, advocate, and protect American Indian history, culture, art, language, and the legal and human rights of American Indian people to their own sense of identity and heritage…"* These responsibilities are carried out in a number of ways, including through an exciting and extensive technology initiative.

Background on Technology in Indian Country

We believe that technology will help TCUs overcome current inequities and could hold the key to our future success. To be sure, this country suffers a serious divide, and it is a division based on race, income, and location. But to tribal colleges, information technology represents a tremendous "digital opportunity."

Today, information technology is an integral part of teaching, learning, and research in higher education. Every college in the nation either has or is reassessing its role in light of the implications new technology brings for pedagogy and research. For tribal colleges and other minority serving institutions – which are generally the nation's poorest and most isolated institutions -- the opportunities are nearly endless. We can – and must – participate in the development of strategies and technology solutions vital to ensuring that our students and communities are fully included in this nation's prosperity.

Tribal colleges are determined to move forward, and we have made remarkable progress, but barriers still exist. Most of the colleges and our reservations lack basic infrastructure: reliable and high-speed Internet connections, adequate telephone service, appropriate numbers of credentialed personnel, and hardware and software that is taken for granted at most mainstream institutions. For example:

- **Telephones**: Less than 50 percent of homes on reservations have telephones, compared to 95 percent nationally;
- **Computers:** Less than 10 percent of American Indian households have computers, compared to about 50 percent of white Americans, 25.5 percent of Hispanics, and 23 percent of African Americans;
- **Internet Access:** No more than 8 percent of all American Indian homes have access to the Internet;
- **Web sites:** Only about one in five American Indian tribal governments have web

sites (558 federally recognized tribes exist in the United States);

- **TCU Connectivity**: For adequate Internet-based data and information sharing, most universities require at least DS-3 connectivity. Only one tribal college currently has funding for high-band width connectivity, but it is not in place yet. All of the tribal colleges have some degree of T-1 access, although most have only fractional T-1 access.
- **Trained Technicians**: Tribal colleges struggle to hire and retain technicians. Annual starting salaries for faculty can be as low as $21,000; consequently, technology staffs are paid at least two times below industry averages.
- **Industry Partnerships:** Tribal colleges have not yet established the kind of mutually beneficial relationships with key industries that lead to economic opportunity, relevant academic and training programs, and ultimately, prosperity.

Tribal colleges are determined to turn this situation around. A few years ago, we committed ourselves to an initiative aimed at bringing our institutions to a "*Circle of Prosperity,"* a place where tribal traditions and new technologies are woven together to build stronger and more sustainable communities.

First, we agreed collectively on two goals, which are the core of the *Circle of Prosperity* initiative. These goals are:

(1) to enable each tribal college to improve its technology infrastructure in a manner that fulfills its mission and objectives related to the needs of its students and community; and
(2) to develop tribally and culturally centered applications of information technology.

To develop the most cost-effective and locally-relevant strategies for achieving the goals, the tribal colleges undertook a process never before attempted in Indian Country: we reached out to 11 major local, national, and international stakeholder groups and ask more than 150 representatives to help us develop, plan, and refine a process for bringing the opportunities of technology to Native America. To begin our work, the colleges used a methodology called a "Prosperity Game," a fast-paced, interactive simulation developed by Sandia National Laboratory from strategic war games and designed to help create and sustain productive change through strategy development and negotiation. During the 3-day Prosperity Game, an outline of a plan emerged. Later, a smaller group came together for a 2-day "crafting circle" event, which helped refine strategies and action steps and laid the groundwork for the "National Framework for Tribal College Technology".

To guide this important effort, AIHEC has established a national coordinating office and launched a series of activities representing the initial phase of the National TCU Technology Framework. These activities include strategic technology planning, partnership building, resource generation, policy development and development of pilot projects among tribal colleges, federal, state, and tribal entities, and the private sector. Some ongoing activities, which are all part of the larger national effort to develop a national framework for TCU technology, include:

Distance Education: Through the Internet and other information technology applications, many tribal colleges are already enriching their curricula and supplementing limited learning resources. An expanding ability to network with other colleges, universities, and tribal institutions is enabling the colleges to share knowledge beyond reservation boundaries and bring to their communities technology and information that can be transferred to support community and economic development. For example, Bay Mills Community College, located in a refurbished fish plant in Michigan's Upper Peninsula, is using technology and distance learning to deliver higher education to all 11 tribes in Michigan and to people in 17 other states, from Florida to Alaska.

Virtual Library: Through our virtual library initiative – a partnership including AIHEC, the University of Michigan's School of Information, IBM, and the W.K. Kellogg Foundation -- the tribal colleges have developed an Internet-based library designed to enhance the meager library resources traditionally available in Indian Country. (i.e. http://www.bmcc.org/vlibrary/index.html) The virtual library, which uses open source software, has been installed at more than 20 colleges. Over the next several months, all of the colleges should be on-line with locally controlled library web sites. These custom-tailored sites: (1) provide student and community access to local TCU library and curricula resources; and (2) interface with a much larger AIHEC virtual library data base of commonly-available and licensed resources (i.e. national and international education journals)

Already, the virtual library has made a difference in the accreditation status of at least five tribal colleges. Last fall, the National Science Foundation awarded AIHEC a planning grant to collaborate with NSF's National Science, Mathematics, Engineering, and Technology Education Digital Library community. This grant, like the Kellogg-funded project, will continue our partnership with the University of Michigan's Alliance for Community Technology (www.communitytechnology.org).

AN-MSI: Through a $6 million 4-year grant from the National Science Foundation to EDUCAUSE, AIHEC is partnering with other MSIs and the extensive EDUCAUSE network on the "Advanced Networking with Minority Serving Institutions" (AN-MSI) project. (See www.anmsi.org and attached articles, www.syllabus.com/syllabusmagazine/article.asp?ID=4574, and www.educause.edu/ir/library/pdf/erm0112.pdf) The project is designed to improve networking architecture, improve Internet connectivity in remote areas served by MSIs, help college presidents and administrators improve our knowledge of technology, assist colleges in strategic technology planning, and improve technical support through collaboration (i.e. remote technical support).

Through AN-MSI's limited funding, we have been able to achieve incredible results, largely because we have worked concertedly to develop a strong network of technical expertise within the tribal college system and because we leverage this funding to the maximum extent possible. A number of initiatives are currently underway, but I will mention only one – the wireless initiative -- and refer you to the attached articles for information on other

projects.

To provide high-speed connectivity to remote institutions and their satellite campuses, we are piloting state-of-art wide-band wireless technology at four tribal colleges, including Turtle Mountain Community College. Through this effort, the colleges will weave a wireless web of connectivity around our reservations, connecting institution sites, tribal offices, and K-12 schools to one another, and eventually, to the Internet through a highspeed backbone running between the college and existing Internet2 access points or state university systems. Our goals are to enable each TCU to acquire and sustain high-speed broadband connectivity, and then to build a TCU access grid that will weave a common web around all of the colleges and Indian Country. At the same time, we will be establishing collaborative relationships with people and institutions worldwide.

NSF-TCUP: In Fiscal Year 2001, the president and Congress created a new $10 million program within the National Science Foundation to help tribal colleges develop and train an American Indian IT workforce and improve STEM programs. In the first year, 13 tribal colleges and two Alaska Native-Serving institutions received a mix of planning and implementation grants. We are currently in the second year of this program, with the expectation that a handful of institutions will receive funding later this year. We are very grateful for this significant new opportunity, and look forward to implementing and expanding it in the years to come.

A number of other initiatives are underway, including private sector partnerships with IBM, Microsoft, and Cisco; partnerships with federal agencies such as NASA and DoD; and partnerships with other MSIs and mainstream institutions, including an initiative to develop a web-based Collaboratory for research and education.

Mr. Chairman, we are making progress, and we hope to work with you to ensure that our progress continues. We want to work with you to ensure that each and every tribal college has access to the resources it needs to develop and use technology in a manner consistent with its mission and tribal community. We would like you to join our effort to construct the national framework for TCU technology – to build partnerships, create resource opportunities, and build networks between tribal colleges and the private sector. In short, we would like to work together to ensure that all tribal colleges and tribal communities reach the Circle of Prosperity.

Legislative Recommendations

Enactment and funding of the legislation proposed by Senator Cleland and his cosponsors would help the tribal colleges turn our goals into reality. In our view, this legislation represents an investment -- a down payment – that will pay education and economic dividends for generations to come.

A. National TCU Technology Framework Strategies:

The legislation appears fair and well reasoned, and we believe it is sufficiently broad to fit the 8-part strategy AIHEC is developing to achieve our goals for the national TCU technology framework. As outlined above, we have already begun working on some of the strategy's action steps, but I believe a summary of each strategy will give the subcommittee some issues to think about as the legislation is refined and modified.

Our strategies, which we hope will fit into the final legislative initiative, are:

- **Infrastructure:** Ensure that resources and relationships are in place to help develop and sustain appropriate technology-related infrastructure at each TCU, including connectivity, facilities, hardware, and software.

- **Leadership & Coordination:** Facilitate the development and continuous evaluation of individual TCU technology strategic plans; establish a national TCU technology advisory board; and develop policy and funding strategies.

- **Partnerships:** Build partnerships with industry, federal agencies, other colleges and universities, K-12 schools, and communities to assist TCUs and their communities in improving their education systems, developing their economies, enriching and protecting their heritage, and improving quality of life.

- **Education & Human Resources:** Ensure that TCUs have capacity to evaluate and adopt emerging technology-mediated teaching tools and strategies; encourage development of on-line degree programs offered individually and through consortia; assist in creating faculty development programs to ensure that instructors are competent to teach and use emerging technologies; increase access to online curricular materials; create adjunct faculty resource pools that can be shared by all TCUs; and assist TCUs in implementing student assessment strategies.

- **Research & Development:** Enhance TCU research capabilities by encouraging linkages to national super-computing infrastructure initiatives (Access Grid); participating in Internet2; establishing local cluster computing projects; adopting low-cost Internet-based collaborative tools (Collaboratory); creating opportunities for research partnerships with non-TCU centers and laboratories and among TCUs; developing research projects targeting critical areas (i.e. health, environment, energy); and developing community-based technology transfer programs involving TCUs and industry.

- **Culture:** Establish an advisory group of cultural experts from TCU communities who will assist in developing culturally appropriate applications for the virtual library and other initiatives; and establish and strengthen linkages with other technology-based national and international indigenous initiatives, including development of ongoing projects with the National Museum of the American Indian.

B. Specific Recommendations

In addition to the broader strategy areas discussed above, we would like to briefly mention a few specific issues and ideas for your consideration:

1. **"Indians into Technology" Program:** In response to a critical need for medical professionals from and in Native communities in the mid-1970s, Congress authorized funding for an innovative educational program at the University of North Dakota-Grand Forks (http://www.med.und.nodak.edu/depts/inmed/). Through the "Indians Into Medicine" (INMED) program, American Indian students receive vitally needed educational and personal support from elementary through professional school. INMED includes summer sessions for students from elementary school through college; junior and senior high school bridge programs; a tribal college bridge program; summer medical school preparation program for college juniors and seniors and recent graduates; and ongoing educational and personal support programs for medical and graduate school students.

   In recent years, INMED has expanded to other institutions of higher education in Indian Country. Because of similarities in demographics and need, a similar comprehensive education and support program could significantly impact efforts to develop and maintain an American Indian information technology workforce. We urge the Committee to consider establishing and funding an "Indians into Technology" program within the Departments of Commerce or Labor.

2. **Remote Technical Support:** Because the tribal colleges are small, underfunded and geographically remote, hiring, training, and retaining qualified information technology support staff is very difficult. We have very good people at our schools, but often, they need a little extra support and guidance. Targeted funding to encourage and sustain remote technical support, training cohort programs, and student-based IT technical support models such as the University of Wisconsin model could be very beneficial to all minority-serving institutions.

3. **Strategic IT Planning:** The need for ongoing strategic planning is paramount to any major initiative or institution. In this area, with technology rapidly evolving and new opportunities becoming available from all sectors, strategic planning for coordination and growth is essential. Specifically, planning needs to be focused on the unique nature and mission of institutions of higher education. Possible models include the AIHEC/AN-MSI partnership currently underway to provide technical assistance to NSF-TCUP grantees. Working closely with experts from the tribal college and MSI communities, AIHEC and AN-MSI are sponsoring teams that will visit colleges to: (1) document, assess, and, if necessary, help improve current networking architecture; (2) increase awareness of technology trends and issues among college leadership and faculty; and (3) begin or expand the process of community-based IT strategic planning. Funding to expand this effort and ensure

strategic IT planning, possibly through the Department of Education's Titles III and V programs for Institutional Development, or the National Science Foundation, could be a wise investment.

5. **Opportunity Parity:** An advantage to the breadth of S. 414's language is that tribal colleges and other MSIs can compete for funding regardless of where they are on the "technology spectrum." The language would appear to allow funding, regardless of whether the college is seeking basic connectivity or upgrading an existing system to build an access node. As new federally funded programs are developed, Congress should bear in mind the degree to which institutions vary and strive to make opportunities available to all. An institution should not be penalized because it currently lacks basic connectivity and e-mail service, but neither should an institution be excluded from participation because it made investments early, before dedicated funding existed, and now seeks upgrades or replacement for aging equipment. All programs must address this fundamental issue of "opportunity parity."

6. **E-rate Eligibility:** The federally created E-rate program has been tremendously successful in bringing affordable telephone and Internet services to the nation's K-12 schools. Just last month, the Bureau of Indian Affairs successfully completed connecting all of its schools to the Internet, and most, if not all, of these schools receive some level of E-rate funding. Currently, the program is not available to tribal colleges, despite the extensive work we do with our K-12 schools. We respectfully request that the Congress consider expanding the E-rate program to include tribal colleges.

Mr. Chairman, in closing I want to reiterate that the tribal colleges are committed to educating and training a new workforce, moving more people from welfare to work. We are committed to working with private industry to bring offshore jobs back home to the United States. We are committed to revitalizing our communities and America's economy through entrepreneurship. And we are committed to plowing any investment made by the Congress back into the education system in Indian Country, building a bridge of technological opportunity across our vast nation.

Thank you.